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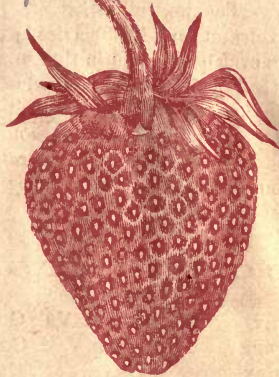




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The Illustrated

STRAWBERRY  
CULTURIST.

Fuller



BY

ANDREW S. FULLER,  
HORTICULTURIST.

New-York

ORANGE JUDD & COMPANY, 245 BROADWAY

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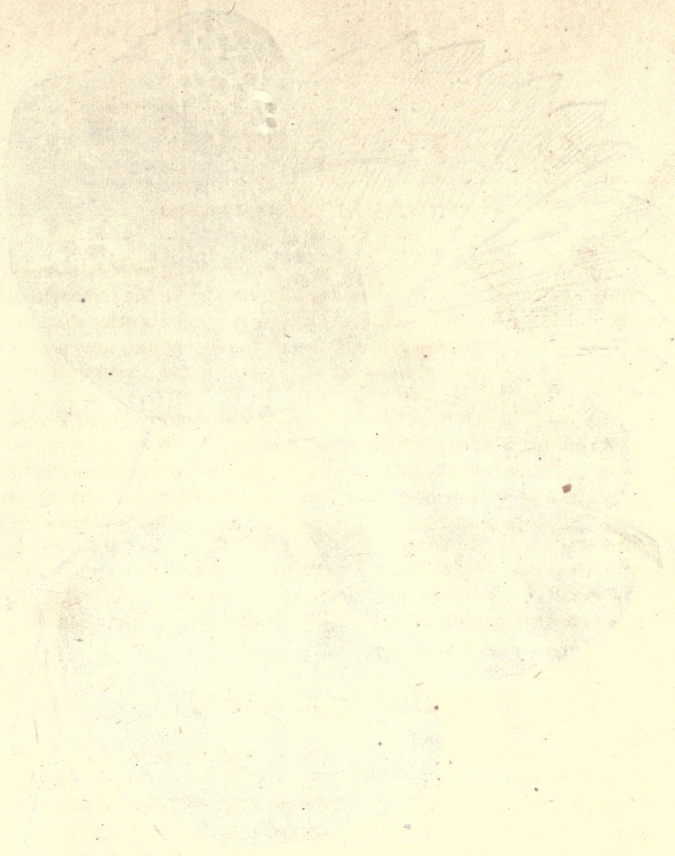
The chapter on gathering and packing the fruit is a valuable one, and in it are figured all the baskets and boxes now in common use. The book is very finely and thoroughly illustrated, and makes an admirable companion to the Grape Culturist, by the same author.

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FORCING OR POT CULTURE, HOW TO GROW FROM SEED, HYBRIDIZ-  
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AND ALL OTHER INFORMATION NECESSARY TO ENABLE EVERYBODY TO RAISE THEIR  
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THE ILLUSTRATED

# STRAWBERRY CULTURIST.

## THE STRAWBERRY.

### BOTANICAL NAME.

THE botanical name of the strawberry is *Fragaria* (from the Latin *frago*, to smell sweetly). Its French name is *Fraisier*; German, *Erdbeerpflanze*; Italian, *Pianti di fragola*; Dutch, *Aadbezie*; Spanish, *Fresa* South American Spaniards, *Frutilla*.

The following are some of the best-known species :

*Fragaria vesca*, wood strawberry, fruit red, white, and green—native of Britain.

*F. collina*, Alpine strawberry, white and red—Alps Mountains Europe.

*F. Indica*, yellow fruited—India.

*F. elator*, Hautbois or Highwood, pale red—Germany.

*F. Virginiana*, Virginian strawberry, red—United States.

*F. grandiflora*, large flowering, red and white—by some botanists said to be a native of the Southern States; others give its native place as South America.

*F. Chiliensis*, Chili strawberry; by some it is called the same as *grandiflora*, and by others as distinct—South America

The following are sometimes classed as species, and by others as sub-species or varieties :

*F. Canadensis*—Canada.

*F. calycina*—large calyx.

*F. monophylla*—one-leaved.

*F. plantinoides*—plane-leaved.

*F. Bonarensis*—Buenos Ayres.

*F. Illinoisensis*—Illinois.

It belongs to Class 12, *Icosandria Polyandria* of the Linnæan or artificial system of botany, or in *Rosaceæ* or Rose family of the natural arrangement.

Stamens, more than ten on calyx, surrounding the pistils—mostly low, creeping plants, with perennial roots—many species and subspecies found growing wild in the temperate and cold climates of both hemispheres.

#### HISTORY OF THE STRAWBERRY.

How the name of Strawberry came to be applied to this fruit is unknown, as the old authors do not agree; some asserting that it was given it because children used to string them upon straws to sell, while others say that it took its name from the fact of straw being placed around the plants in order to keep the fruit clean. Its name may not have been derived from either of these, but from the appearance of the plant; for when the ground is covered with its runners, they certainly have much of the appearance of straw being spread over the ground. We have found nothing conclusive on this point.

The strawberry does not appear to have been cultivated by the ancients, or even by the Romans, for it is scarcely mentioned by any of their writers, and then not in connection with the cultivated fruits or vegetables. Virgil mentions it only when warning the shepherds against the concealed adder when seeking flowers and strawberries.

Ovid mentions the Alpine and wood strawberries, and Pliny speaks of it as one of the few native fruits of Italy.

From what we learn from these and other ancient writers, we conclude that the cultivation of the strawberry belongs wholly to modern times, or about 400 years since. Yet there does not appear to have been any highly-improved varieties in cultivation one hundred years ago, although the strawberry was much cultivated in gardens in the beginning of the fifteenth century.

Casper Bauhin, in his "Pinax," published in 1623, mentions but five varieties. Gerarde, in 1597, enumerates but three—the white, red, and green fruited.

Parkinson, in 1656, describes the Virginian and Bohemian, besides those mentioned by Gerarde. Quintinie, in his "French Gardener,"

translated by Evelyn in 1672, mentions only four varieties, and gives directions for cultivation similar to that practiced by some of the best cultivators at the present time, viz., planting in August, removing all the runners so soon as they appear, and renewing the beds every four years.

Only four or five varieties are mentioned by any of the old writers on gardening earlier than about 120 years ago. Switzer, in 1724, enumerates only four kinds; therefore we conclude that few, if any, but the wild varieties were in cultivation at that time.

The Cappron strawberry (or Fressant, as it was afterward called), which is mentioned by Quintinie, was the first improved variety. It was obtained at Montreuil, in France, and is said to have been a seedling of the wood strawberry.

The Hautbois was said by Miller to have been carried to England from this country, and Parkinson, in 1629, said that it had been with them but of late days, and that it was brought over from America by Quester, the postmaster. The native country of this species is now supposed to have been Germany, where it is called the Haarbeer. The old French gardeners called it the "Capiton."

The Chili strawberry is supposed to have been introduced into South America by the Spaniards, from their colonies in Mexico. It was planted by them at the foot of the Cordillera Mountains, near Quito, and it was from here that M. Frazier obtained it and carried it to Marseilles, in 1716. It was the largest variety then known.

It is now found on nearly every island in the Southern Ocean, wherever the Spaniards have made settlements. That the *Chiliensis* and the *grandiflora* are very nearly related, if not the same species, there is but little doubt.

Miller introduced the Chili strawberry into England in 1727; but it proved to be so unproductive that, after cultivating it for nine years, he said that its cultivation would have to be abandoned on this account. He also speaks of the large flowers and deformed fruit of this species, which is one of the characteristics of nearly every variety that has been grown in Europe or America from the Chili species.

The *Fragraria Chiliensis* and *F. grandiflora* appear to be varieties or species from which the varieties mostly cultivated in Europe have



been grown. The varieties raised there are generally larger, not as productive, sweet, but not rich, having less of that aromatic flavor so much admired by Americans. These varieties do not flourish as well in our climate as those grown from the *F. Virginiana*. Seldom do we get a large variety from Europe that succeeds well in this country, simply because they are grown from the more tender species.

But little improvement was made in the strawberry until the European cultivators commenced raising seedlings from the American species, which were found susceptible of great improvement, without any special effort or the application of any great scientific skill in their culture.

About the beginning of the present century, practical experiments began in England by cross-breeding and hybridizing species and varieties, and the results were soon apparent from the increased number of large and fine varieties. Those that attracted the most attention at that time were the Roseberry, raised by R. Davidson, in 1810; Downton, by T. A. Knight, in 1816; Grove End Scarlet, by Atkinson, 1820; Keen's Seedling, 1823; Elton, by Knight, 1828. Then Myatt followed with his Pine, Prince Albert, Eliza, British Queen, etc. A host of other growers were at work producing other fine varieties in innumerable numbers.

The French, Belgian, and other continental strawberry growers were also in the field, and the results are that the strawberry has become one of the great fruits of Europe.

Here we did not commence quite so soon, or go to work so earnestly as did our transatlantic friends; yet many fine varieties (or those considered so) were produced twenty years ago.

The production of Hovey's Seedling, in 1834, gave a new impetus to the production of new varieties, and it has been kept up with such vigor that, probably, at the present time, we possess as many and as fine varieties produced in this country as can be found in any other.

#### THE SEXUALITY OF STRAWBERRIES.

We find, on examining the blossoms of strawberries in cultivation, that while in some are found both stamens and pistils others have only stamens, and others still only pistils. The first, represented by

Figure 1, are called perfect, natural, bisexual, or hermaphrodite varieties. Figure 2 shows the staminate or male blossom, and Figure 3 the pistillate or female. A plant of the first kind will bear fruit without reference to any other; the pistillates are only productive when planted near a perfect or a staminate variety, by which it is fertilized; and a staminate is, under all circumstances, barren.

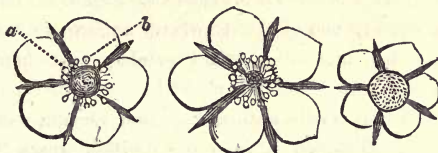


Fig. 1.

Fig. 2.

Fig. 3.

The war of words that has raged relative to the sexuality of the strawberry, ever since the days of Keen, who reported his observations to the London Horticultural Society in 1809, has been both instructive and amusing. The tenacity with which certain parties hold to the theory that pistillates are and ever will be the most productive, would certainly be worthy of admiration if exhibited in a better cause. Claiming, as they do, that the strawberry has been placed in the wrong class by botanists, and that the discovery of the fact that there exist certain varieties which possess only one sex of the organs of reproduction instead of two, was the stepping-stone upon which the cultivator could, if he would, reach a higher grade in the scale of progression than it was possible for him to do in the absence of this wonderful discovery. They have kept alive this contest for half a century; and still, every season, when the strawberry breaks forth into bloom, it recommences.

For my own part, I do not expect to see this question settled by discussion; it rests with cultivators to say whether they will encourage the introduction of varieties that necessitate the cultivation of two for the sake of getting a good crop from one, and at the same time be subjected to the labor and extreme difficulty of keeping the varieties separate when planted in the close proximity always necessary to insure perfect fertilization.

Before leaving this sexual question, I will state a few facts derived from study and experience.

All the botanists that have ever classified plants according to the Linnæan or artificial arrangement have uniformly placed the strawberry in *Icosandria*, which class is founded upon the circumstance of the number and position of the stamens being more than ten, and situated on the calyx. Therefore it is evident that all of the old botanists found the different species of the strawberry uniformly of this character. Had it not been so, they would certainly have mentioned the fact, or have placed it in another class; but none of them ever discovered a strawberry in its normal condition varying sufficiently to warrant them in changing it from the position where it was first placed in botany.

Since the natural arrangement of botany has come into use, no botanist has attempted or dared to question its right to the position it held in *Icosandria* of the artificial or *Rosaceæ* of the natural arrangement. If, as has been claimed, the strawberry in its wild state uniformly produced flowers containing only pistils, and others with only stamens, then, under the Linnæan system, it would have been placed in *Diacia*, or Class 20.

Now the question arises, whether we shall declare that all botanists whose reputation for scientific attainments is unblemished were wrong, and that a few would-be botanists are right, or *vice versa*? Or shall we, laying all prejudice aside, acknowledge that the scientific botanist is right, and that these changes which have been observed are the effects of cultivation and hybridization, or were caused by changes in the vegetable kingdom, the result of the gradual change of the face of the country, consequent upon the march of civilization, which does often in a manner affect even the indigenous plants of the country? Thus, the wild strawberry of North America is found to produce varieties having no stamens, and occasionally they are found growing wild; but whether these wild plants are offsprings from cultivated pistillates it is impossible to determine, but it is reasonable to suppose that they are, as pistillates were not discovered wild until cultivated pistillates were common.

To show that the pistillate is not the normal condition of the straw-



berry, we have but to sow their seeds and watch the result. From two hundred seeds gathered from a pistillate variety I produced but one pistillate ; all the others were perfect or bisexual.

In another experiment I produced sixty pistillates and one staminate in one thousand plants ; all the rest were perfect. But, it may be asked, how came the staminate or male variety? In reply, I would state that there is no reason why any species of plant that will change from a bisexual to a pistillate may not change to a staminate or barren plant. So that this question resolves itself into this, that any other form of flower than that named by the scientific botanist is unnatural. The cause of this change may or may not be known.

By cultivation, man has produced a double flower on the rose, peach, cherry, apple, plum, etc., from the single flower of nature.

By cultivation, or other artificial causes, we have produced from the wild strawberry, with its stamens and pistils both perfect in one flower (see Figure 4), those that possess no pistils (see Figure 2). Then, again, we have those in which the stamens are undeveloped while

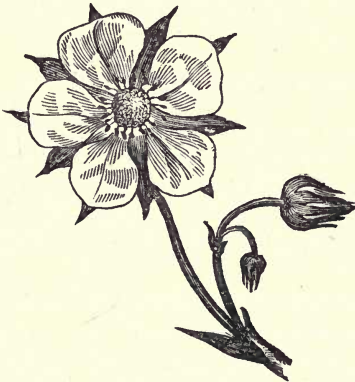


Fig. 4.



Fig. 5.

the pistils are perfect (see Figure 5). In others, one flower on the plant will have no stamens, while another flower will have both perfect. Many other variations occur, produced by cultivation, soils, and situation under which the plants are placed, such as a part or all of

the flowers producing no fruit, or going blind, as it is called by cultivators. This often occurs when plants are forced under glass.

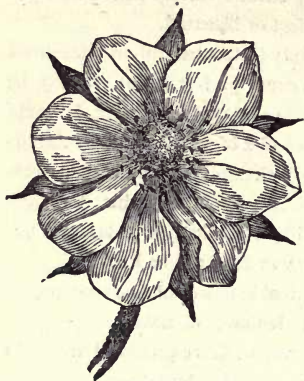


Fig. 6.

Naturally the strawberry flower has five petals (see Figure 4); but in cultivated varieties we often see more, seven being a number often seen in the larger varieties. Figure 6 represents a flower of Duc de Malakoff with seven petals.

These are only a few of the many changes which are constantly occurring, and they admonish us to be careful how we jump at a conclusion without careful investigation.

As to the assertion of some cultivators, that pistillate varieties, when properly fertilized, are more productive than the bisexual varieties, it is only necessary to state that the most productive varieties now known are of the latter class, of which Wilson's Albany, Downer, Bonte de St. Julien, etc., are well-known specimens.

#### CULTURE, ETC.—SOILS.

Any moderately rich, deep loam will, in this latitude, produce a good crop of strawberries; but it is equally true that some soils and situations are better adapted to particular varieties than others. For instance, the Scotch Runner and Early Scarlet will thrive upon a dry sandy soil, where it is almost impossible to keep some of our new improved kinds alive.

As a class the strawberry requires a deep moist soil, one that is open and porous, not heavy, or having clay predominant. The strawberry requires an abundance of moisture, and whatever the other conditions are, let the supply of this be regular and there will be but little difficulty in obtaining a bountiful crop. How this moisture can be the most readily supplied must be decided by the cultivator. If the soil is naturally heavy, then it should be underdrained and subsoiled; if it is gravelly or sandy, then fibrous muck or some similar material

must be added, so that it shall be capable of retaining moisture. Deep plowing, thoroughly pulverizing the soil, with a liberal supply of mulching, is usually all that will be needed to insure a constant supply of moisture.

#### MANURE.

That all plants require food is evident, and if the soil does not contain it in sufficient quantities it must be supplied. Of this, and how much manure, if any, is required, every cultivator must be his own judge, remembering that the strawberry requires a good rich soil, but not so rich as is necessary to grow many other crops.

Caution against putting on too much manure I think is needless, for very few will be guilty of such an act.

#### KIND OF MANURE.

There is but little choice in the kinds of manure which are obtainable on the farm, provided it is well decomposed or composted. Muck, leaves, ashes, old sods, etc., are all good when applied separately, or when composted with barn-yard manure. All fresh manures, such as that of the horse, sheep, hens, etc., should be avoided if possible, as they have a tendency to produce a great amount of foliage, but little fruit. They may, however, be used when old with good effect. Guano may be applied as a stimulant, but not relied upon as a general manure.

In some parts of the country the soil is rich enough, and no manure is needed; but around New York, where the soil has been a long time in cultivation, there are few fields that will not need at least a good top-dressing of some kind of manure before planting. The ground should be made as smooth and level as possible, and all coarse lumps should be made fine or entirely removed.

#### TIME TO PLANT. .

Although the strawberry may be planted with safety at any time from early spring until fall, yet there seems to be two seasons of the year in which it may be done more successfully than any other, namely, April and May in spring, September and October in the autumn. August is sometimes chosen, but it is usually a dry month, and the heat being so great, the plants are more liable to



die or be very much injured. Besides, the young plants are not so well rooted as they are when allowed to remain until September. I have always had better success by transplanting in September than earlier in the season, unless it be in the spring.



Fig. 7.

There is but little choice between April and September, except it be that plants carefully planted in autumn will give a fair crop the next season, while those planted in spring will bear scarcely any fruit until the following year. Some cultivators make a practice of planting in September and taking a crop from the plants the following season, and then plow the plants under and plant again. To have this plan work successfully, it is only necessary to have the ground very rich, so that the plants will become very strong by the time they come into fruit.

## PREPARATION OF PLANTS.

When transplanted in the spring, the half-dead leaves should be pulled off and the roots shortened one third or one half their length.

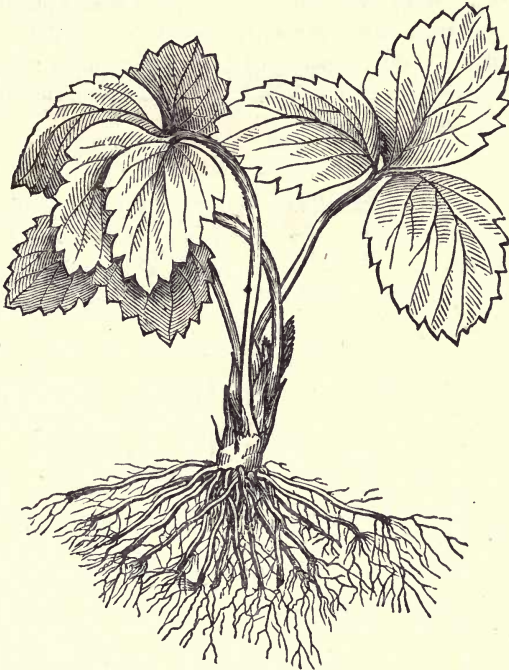


Fig. 8.

Figure 7 shows the position of the roots when taken from the ground—A, being the runner connecting it with the parent plant; B, a new runner, on which another plant will be formed; C—D, the cross line, showing the point at which the roots should be cut. This shortening induces them to throw out a new set of fibrous roots from the ends cut off, which they would not do otherwise. It also causes other roots to push from near the crown of the plant, as seen in Figure 8. The shortening of the roots is beneficial to plants that are

set out in the spring, no matter whether they have been a long time out of the ground, or have been taken up but recently, as the roots have become ripened during the winter, and the ends are always broken off in taking up, and it is necessary that they should be cut off smooth and clean before planting again. Not so with plants in the fall; for the roots of the strawberry continue to grow from the extreme end until cold weather sets in, and when carefully taken up before this, the ends are not broken, and if soon planted again they immediately grow.

#### CHOICE OF PLANTS.

Young runners that are well rooted are always the best, and old plants should never be used if it can be avoided. When a variety is very scarce and valuable, the old plants may be taken up and pulled to pieces, roots and tops trimmed, and then planted.

#### PLANTING.

Choose cloudy weather for planting, if possible. Draw a line where you are to put the row of plants, keeping it a few inches above the ground, so that you may plant under the line; this is much better than to let the line lie on the ground, for then it will be in the way of the transplanting trowel; spread out the roots evenly and on every side; cover them as deeply as you can without covering the crown of the plants; press the soil down firmly around them with the hands.

If the weather should prove dry, give them a good soaking with pure water (no mere sprinkling will do) as often as they require it, which will be as often as the foliage droops. The rows should be two and a half feet apart, and the plants one foot apart in the rows. When pistillate varieties are used for the main crop, then every fifth row must be planted with a hermaphrodite variety, for the purpose of fertilizing the pistillates. Pistillate varieties will not bear alone, nor will they bear a full crop or perfect berries unless an abundant supply of perfect flowering varieties is placed in close proximity. Let no weeds grow among them, and stir the surface of the soil as often as possible; the oftener the better. We know that some cultivators assert that there is much injury done to the roots by frequent hoeing;

but we have never found the plants as much injured by hoeing or forking among them as they were by neglecting to do either.

Take off all runners as they appear, so that all the strength of the plant shall be concentrated, and not distributed among several, as a dozen small plants will not produce so much or so fine fruit as one good strong one. When plants are wanted, make a separate plantation for that purpose.

At the approach of winter, the entire surface of the soil, plants and all, should be covered with straw, hay, or some similar material, to the depth of one inch; the object being not so much for the purpose of keeping out the frost as to prevent the frequent freezing and thawing during the early part of winter and the approach of spring. So soon as the plants start in the spring, the covering should be pushed aside, so as to allow the plant to grow up through it. The question is often asked, whether it is necessary to cover the hardy varieties in this locality during winter? and if we should judge from the difference in the appearance of the plants in the spring, we might doubt the expediency of such a practice; but I have found it highly beneficial to cover all varieties, having tried several experiments the results of which were that on an average we obtained about one quarter more fruit when the plants were covered than when they were not.

The embryo fruit buds are formed in the fall, and are often injured during the winter and spring, and of course if there are but a few fruit stems put forth, there is but little call on the plant to support them, and consequently the leaves have more food.

Usually the plants grow strong or weak in proportion to the quantity of fruit they bear. This would often lead cultivators to suppose, from the luxuriant growth of the plants, that covering was of no benefit, if not positively injurious.

Keep off all runners at all times, and pull up all weeds that come up through the mulching. No stirring of the soil is needed if a good depth of mulch is sustained. It will generally be necessary to add a small quantity of mulch every fall, depending, of course, upon the nature of the material used. Salt hay is a material that is much used near New York, and it is cheap, lasting, and easily applied; but straw, hay, carpenters' shavings, leaves, tan-bark, etc., are all good. Straw-



berry plantations that are kept well mulched, and freed from weeds and runners, will last for many years, depending, of course, somewhat, upon the variety planted and the nature of the soil.

On very dry or sandy soil it is well to mulch the ground very soon after the plants are set out, or so soon as they take root in the soil, as there is but little danger of being troubled with weeds the first season, and the mulch keeps the earth moist, a thing which it is very difficult to accomplish in any other way.

#### GARDEN CULTURE.

The same direction given for field culture of the strawberry is applicable to the small garden, with the exception of the arrangement of the beds; these should be four feet wide, planting three rows in each, placing the plants eighteen inches apart each way; this will leave six inches margin between the outside row and the walk, which should be two feet; this gives three feet between the plants of parallel beds. This is none too much space between beds for standing room to gather the fruit; and if different varieties are grown in beds side by side, a less space than three feet would increase the danger of the plants running from one bed to the other. Although no runners should be allowed to grow, all of us will sometimes become careless and neglect to keep them off; and mixing the plants should be guarded against, if anything like good culture is attempted.

When pistillate varieties are grown, they should be planted in alternate beds with other sorts, but never plant both kinds together in the same bed. Mulching the beds must be attended to the same as in field culture; and when it is convenient, it is well to remove the mulch after the plants are done fruiting, and fork up or hoe deeply the ground between the plants, and then mulch again.

All the different operations by which the fruit may be enlarged or the quantity increased, such as watering with pure water, or with liquid manure, guano, sal soda, etc., will suggest themselves to the observing cultivator.

When a strawberry bed begins to fail, it is best to plant new beds on new soils; and when the old beds are destroyed, the ground on which they were should be planted with some other crop, and not again planted with strawberries for two or three years.

**TO PRODUCE LARGE FRUIT.**

To grow a few large berries, it is only necessary to select, so soon as you can after the fruit sets, three or four of the most promising berries, and pick off all the rest, and then not let the plant want for moisture or food until it is ripe. To grow large fruit of the Alpine strawberry, it is best to raise new plants from seed every season, letting them fruit but one season, and then replace them with new plants. This class of strawberry reproduces itself from seed without any considerable variation.

**TO PRODUCE NEW VARIETIES.**

In attempting to produce a new variety of strawberries from seed, it should first be decided what are the qualities desired, and then, by selecting two varieties that possess these qualities as near as may be, and by fertilizing one with the other, we can come nearer to the object in view than we should by sowing seed collected indiscriminately from varieties not properly fertilized.

For instance, let us take the Wilson, which is very prolific, quite large, and firm, but is rather acid, and too dark a color, with a calyx that does not part readily from the berry, and the Peabody, which is not prolific, though large, and is of superior color, and sweet, and has a calyx that parts readily.

Now let us place these two varieties at some distance from others, but in close proximity to each other, so that they can be the more readily operated upon. When they come into bloom, remove the stamens from as many flowers as desired, and then with a fine camel's-hair pencil take the pollen from the other variety, and dust it over the pistils of the flower from which the stamens have been removed. It is well to place a fine netting over the plant operated upon, to prevent insects from fertilizing it with pollen from inferior varieties.

The flowers should have the pollen applied several times, a few hours between each application, so that the fertilization shall be complete. It is well to use both varieties as parents, and fertilize the Wilson with the Peabody, and *vice versa*, as it can not be determined which will produce the best until proved by actual experiment. I do not mention the Wilson and Peabody believing them to be the best to

raise seedlings from, but only to illustrate the principle. From my own experiments with them I have been somewhat disappointed, for nine tenths of the seedlings from the Wilson fertilized by the Peabody were more acid than the parent, although I succeeded in getting the color and some of the other characteristics of the Peabody. But using the Peabody as the parent, I have had better success, getting a better colored berry, sweeter, and some plants that were quite prolific, with almost invariably the long neck, which is a peculiar characteristic of the Peabody.

Any two varieties of the same species, or two distinct species (unless too far removed, like the Alpine, which, I believe, will not hybridize with any of the others), may be brought together, and valuable varieties grown from the mixture.

But it must be remembered that the varieties now in cultivation have been so mixed and cross-fertilized, that it is almost impossible to get a true cross between any two of them.

The effect of fertilization of previous generations will sometimes show itself when and where least expected. Sometimes the best results will be obtained by merely sowing seeds of any good variety, trusting to its inherent good qualities being transmitted to the offspring.

From the Austin I have got seedlings, all of which resembled the parent, but were inferior; and I have noticed that all of this class, such as the Downer, Iowa, Charlton, Georgia Mammoth, etc., are very likely to produce varieties no better than the wild Western berry from which they evidently all originated. It is very easy to get a large variety from this class, but seldom a good one. From the Bickton Pine I have grown large, sweet, orange-colored fruit, but, like the parent, unproductive.

From the Oscar, which is a poor grower, I have produced fine growers, and those that were moderately prolific; but the fruit was sweet and dry.

The results of some of my experiments are exceedingly curious, such as producing five distinct varieties from the Bartlett, all of which had entire leaves, not lobed. They were very similar to those described by Duchesne as raised by him at Versailles in 1761, and called the *Monophylla*, it being just 100 years (so far as I have been able to

learn) since the first one-leaved strawberry was grown until the second was fruited by me in 1861. But neither were of any value, except as a botanical curiosity.

From the Iowa I produced a five-leaved variety, and one with leaves having a beautiful silver stripe, but of no value to the cultivator.

#### HOW TO RAISE SEEDLINGS.

To obtain strawberry seed for planting, the berries may be dried perfectly, after which the pulp, by a little rubbing, will be reduced to a fine powder, throughout which the seeds will be distributed; or the seeds may be washed free from the flesh very readily by mashing the berry in water, when the seeds will fall to the bottom, and the remainder can be poured off. But the plan we prefer is as follows:

When the berries from which you wish to grow seedlings are ripe, they should be mashed and mixed with dry sand, so thoroughly that no two seeds shall remain together, using sufficient sand to absorb all the moisture. Then sow the sand containing the seeds in a bed previously prepared in some half shady place, or under glass; sift on some fine mold, covering the seeds about an eighth of an inch deep. If the soil is kept moist, the plants will begin to appear in about four weeks, and will continue to come up until cold weather, at which time they should be covered lightly with straw, say one inch deep. The following spring the plants should be set in rows, at least two feet apart, and 18 inches apart in the row.

Stop all runners every week throughout the season, and keep the beds clean. The second year after transplanting, you will have fruit. Mark sexes of each as they come into blossom. As the fruit ripens, mark the time and character, select the very best, and destroy all other plants. Lift carefully those that are to be preserved, and put them into new beds where they will have more room to make runners. The correct estimate of the value of any new variety can not be ascertained until it has fruited two or three years. For my own part, I shall never again save a pistillate, although I have done so heretofore extensively, for the purpose of ascertaining by actual experiment whether they were any more likely to be better or more productive than the bisexual or perfect varieties.



The results of some of the largest experiments which I have tried are, that out of several hundred seedlings of 1856 none were good, although sown from the best seed that I could obtain. In 1859 I raised another large quantity. Being more careful in selecting the varieties and in their fertilization, the result was a thousand different varieties. There were sixty pistillates, one staminate which produced no fruit, and the remainder bisexual or hermaphrodite.

Out of this number I have three varieties that have fruited three years, which are worthy of being cultivated. From two hundred seedlings of 1860, fruited two years, I shall keep two for further trial.

To those who may think this a tedious undertaking, I would say that no one should endeavor to produce new and improved varieties of fruits and flowers if it is to be looked upon as labor. It should be only a pleasant pastime.

#### POT CULTURE.

When strawberries are to be cultivated in pots, the soil should be made much richer and more friable than when cultivated in the open ground. A good compost for the purpose is made by taking sods from an old pasture, putting them in a heap, and turning them occasionally until they are thoroughly rotted; then take three parts of this and one part of good stable manure (or cow manure, which is better) which is at least one year old, and well rotted; add a small quantity of coarse sand; mix these well together and sift through a coarse sieve before using. Other materials of like nature, such as peat, leaf mold, etc., may be used instead of sods. Prepare compost the season before it is wanted for use, and so soon as the plants begin to throw out runners, fill small pots, say two or three inches in diameter, with the compost, and set them in the ground near the plants from which you wish to take those for pot culture, with the top of the pot just level with the surface. So soon as the young runner shows signs of producing roots, place it on the soil in the pot and lay a small stone on it to keep it in its place. When the plant has become well rooted in the pot, it should be lifted, the runner cut off both sides close to the plant, then set the pots away in an open and airy place for a week or two, being careful to give them plenty of water. They should always be placed on boards

Instead of the ground, for in the latter case, worms will be very likely to enter the pots through the hole in their bottom. When the pots have become filled with roots, and before they become matted, shift into four or four-and-a-half inch pots, in which they should remain a few months and then be changed to six-inch pots, in which they are to fruit. Some prefer to give them two shifts; others put them into the large pots at once from those in which they are struck. Either plan will work well if the operation is carefully done. Care should be observed in re-potting to not break the ball of earth around the plants, and to have the soil put around the plant of the same consistency as that of the ball itself. The crown of the plant should be about level with the top of the pot.

Good drainage is very important, and to secure it, lay first over the hole of the pot a piece of a broken pot, or shell, with the concave side down, then place a few small pieces around and on the top of this, over which put a piece of old sod or moss, and a small handful of ashes or soot over all, to prevent worms from entering from below. The larger the pots the more drainage must be used. No drainage is needed for the little pots that are placed in the open ground in which the runners are first struck.

When the plants have received their final shift into the large pots, they should be placed upon a low staging, or upon slats, in the open air, so that the hole in the pot shall not be closed. Attend to watering, and by the first of November they are ready for early forcing or putting away for fruiting later in the season. Where a succession of crops is desired, only a portion at a time should be placed in the forcing-house; the others being kept in a cool place, from which they may be taken as desired. It requires from ten to fourteen weeks from the time the plants are placed in heat until the fruit will be ripe.

The best place to store the plants potted for forcing during the winter is the

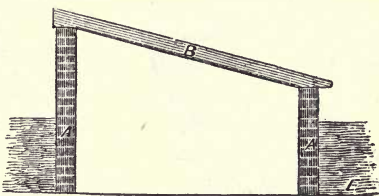


Fig. 9.

walled pit (Figure 9), which should be made partly in the ground and

partly above it. The walls are formed of brick or stone, or boards filled in with sawdust or tan-bark, finished with a coping and covered with movable glass sashes. In such a pit they will not freeze during the coldest weather, if the sash is covered with straw mats or board shutters that fit closely.

Watering the plants is one of the most important operations in forcing any kind of fruit, yet I can give no precise direction as to time or quantity, as it depends so much upon circumstances which are variable. But one person should always attend to this operation, for by so doing they will soon learn the quantity the plants will require.

The plants should be syringed over head every day with pure water, and the temperature should be 65 to 75 degrees by day, and 50 to 60 by night. When the plants come into bloom, the syringing should be dispensed with and plenty of air admitted, enough to get up a circulation if possible.

It is seldom necessary to give the plants any stimulant if the soil in the pots be properly prepared; but if it is ever desirable to push them a little more rapidly, they may be sparingly watered with guano water, say four pounds to the barrel, or other liquid manure, such as two or three shovelfuls of cow manure to a barrel of water. A solution of nitrate of soda, say an ounce to eight gallons of water, sprinkled regularly over the surface of the soil, is not so offensive, and nearly as good as manure water. When the fruit is set, a higher degree of temperature may be maintained, say ten degrees by day and five by night. If the plants are placed on a stage in the forcing-house, more care will be needed in watering than when plunged in soil; and

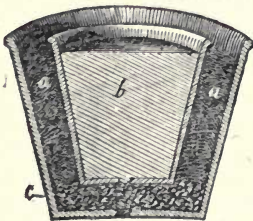


Fig. 10.

where staging is used, it is best to place the pots within another pot, as shown in Figure 10, the outside pot, *c*, being about one inch more in diameter than the inside one, the space, *a*, between being filled with moss, which should be kept constantly moist. The roots of the plant will soon fill the pot and grow more or less on the outside of the ball of earth against the pot; and as the pots are placed so that the sunlight or a free circula-

tion of air passes around them, they soon become dry, which of course soon injures the roots immediately in contact with it, although at the same time the mass of soil inside may contain all the moisture needed. To guard against injury to the roots, it is best to plunge the pots in earth, or grow them in double pots. This insures a more regular supply of moisture.

Those who have no glass-house in which to force the plants, may hasten the ripening by placing the plants in a common hot-bed (see cut) early in the spring, giving them air on pleasant days and closing the frames at night.

The common hot-bed is made by excavating the ground to the depth of ten or twelve inches and laying a strata of horse manure and leaves alternately therein, making the whole about two feet deep. The frame (Figure 11) is a bottomless box of wood with sloping top covered with a glass sash. The size and form

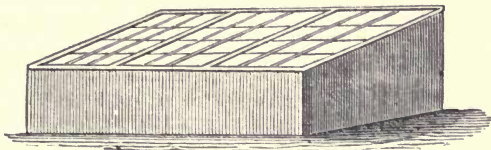


Fig. 11.

are not material, but from four to six feet wide and from six to ten feet long is a good size. The bed should be six inches larger each way than the frame which is to cover it, and slope slightly toward the south. When completed, put on the frame, close the sash and keep it on till fermentation commences, which will be when the steam appears on the glass. Then give the bed air a little while during the warmest part of the day. In three or four days cover the surface from four to six inches deep with fine, rich garden mold. In this mold plunge the pots containing the plants to within one inch of the top, setting the pots at a distance of about one foot from center to center.

The same kind of frame, without the aid of bottom heat, will advance the ripening of the fruit at least a month. Those persons who have but little ground may, by having a few frames, secure a succession of this delicious fruit. One gentleman in this city, who has no



room for a strawberry bed—in fact, he has no *garden*, nothing but a **small** yard, which is paved, and upon which the sun shines only a part of the day—yet grows many quarts of fine strawberries every year. His mode is to get plants that have been potted in the fall and all ready for fruiting ; these he places upon the sunny side of the pavement in the morning, and moves them in the afternoon upon the other side, having them placed upon a platform that is easily and readily moved. The watering and moving are attended to by the children, and by their constant watchfulness and care they learn to love and admire the plants ; and when the fruit ripens, each specimen is looked upon as the *fruit* of their labor and more highly prized than if bought from the market. Each plant usually gave one quart of fine fruit. I mention this merely to show under what difficult circumstances this beautiful fruit may be grown. It should not be forgotten that, if we expect good results, the plants that are to be fruited in pots must be potted the fall previous, and placed in a frame covered with glass during the winter, where they will not be frozen, but it should not be warm enough to excite the plants into growth.

Plants that have fruited once in pots are of but little use, and it is better to plant them out, and take a few runners from them, or get a fresh supply from young, healthy plants.

#### PROPAGATION.

Having given on a preceding page a description of the best method of propagation by seed, I omit any further remarks on that point, and mention the other modes only.

BY RUNNERS.—These are young shoots that issue from the collar or crown of the plant ; they are produced by most species of the strawberry in great abundance, furnishing a ready and convenient mode of propagation. All that is necessary in propagating by runners is to permit the young plant to become well rooted before removing from the parent. But as several plants are generally formed on each runner, it is requisite that the second plant from the parent plant should be well rooted before the first is removed. The first plant on the runner obtains its nutriment from the parent until it produces roots sufficiently to support itself, after which it draws but little, if any,

from it. The second plant on the runner draws from the first until its roots become established in the soil ; and so each one draws upon the one preceding it, provided the soil is such that roots can penetrate it and find food to support the plant ; if not, then each plant on the runner will derive its food from the parent plant until such time as it becomes rooted.

Knowing this, we should adopt every measure that will insure the rooting of the young plant so soon as possible, as a precaution against its drawing too much upon the strength of the parent plant.

In preparing soil for propagating plants, it should be made much deeper and richer than when prepared solely for growing plants for fruit. The manure used may be quite new, and of a more stimulating nature. The surface of the soil should always be kept in such a condition that the young rootlets can easily penetrate it.

The method that I have found the most successful is to make the soil quite rich before planting, and put the plants at least two feet apart one way, and eighteen inches the other. Cut off all fruit-stalks as soon as they appear ; keep all weeds down, and stir the surface of the soil as often as possible. When the runners start, cover the whole surface of the soil one half to one inch deep with fine, well-decomposed stable manure ; this not only furnishes food to the plants, but it keeps the surface of the soil moist, allowing the young roots to penetrate readily, and it attracts the roots ; in other words, it stimulates the vital principle to throw out roots. We know that they are attracted toward congenial food, and repelled by that which is uncongenial, and by placing a slight coating of manure on the surface, it comes immediately in contact with the runner and induces it to throw out roots much sooner than it would if placed at some distance from it.

The principle on which manure acts on the plant before it comes in contact with it, may or may not be fully understood ; yet the fact that it often does is sufficient for our purpose at present. By placing one runner without roots upon a piece of manure, and another upon a sponge, keeping both moist, we can soon ascertain that the manure is the more congenial of the two. A full supply of water should be given the plants if convenient, as it will assist them very much. I

have found that a pound of sal soda or common potash to a barrel of water, and the plants watered with the solution, will stimulate them to produce an immense amount of runners. The potash acts upon the vegetable fiber in the soil as well as upon the manure upon the surface, decomposing it very rapidly, making it soluble, and consequently readily absorbed by the roots. Besides, I have found the plants less troubled by insects and grubs where the potash was used than where it was not.

The quantity of plants that can be produced from a single plant in one season depends very much upon the character of the variety; some kinds produce many more than others when subjected to the same treatment, and it is not always the most vigorous growers that produce the most runners.

I planted, in the spring of 1860, four thousand *Triumphes de Gand*, which produced one hundred thousand the first season, or an average of twenty-five to the plant, without any special care or artificial application of moisture. The soil was trenched two feet deep, and a liberal supply of manure given it before planting. With the *Downer's Prolific*, I have grown at an average rate of one hundred to the plant. An increase of fifty to one is a good yield, but one hundred to one is not uncommon.

The young plants are usually taken up in September, at which time there are many plants on the runners that are not well rooted. These may be planted close together in a bed previously prepared and made very rich; give them a good soaking of water so as to settle the soil around them; then cover with hay or straw, just enough to shade the plants, and give an occasional watering if the weather should prove dry. In this position the plants will soon throw out new roots, and in a week or ten days the covering may be removed. Small, partially rooted plants, if treated in this manner, will become good, strong plants by the time cold weather sets in, at which time they should be again covered, and transplanted in the following spring.

The small, unrooted runners may also be potted in small pots, and placed in a greenhouse, or in frames that have been used for hot-beds; if there is a little heat remaining in it, so much the better. When treated thus, they will make better plants than when planted in the

open ground, but it is more expensive, and will not pay for the trouble unless the variety is scarce and valuable.

When placed under glass, they will require protection from the direct rays of the sun until they are rooted, at which time they must have plenty of air and water until they are sufficiently strong to allow the sash to be removed. They may then be potted into larger pots, and used for forcing, or planted out into the open ground.

The Bush Alpine strawberry is sometimes propagated by taking up the old stools in the spring or early autumn, dividing them into single crowns and then replanting them. But a much better way is to sow the seeds (see page 21), whenever it is necessary to renew the beds or to produce more plants, as the fruit from the seedling is always larger and better than it is from old and partially exhausted plants.

#### VARIETIES FOR FORCING.

Very few experiments have been made with our native varieties to ascertain their relative merits in reference to pot culture. The fruit is seldom so high flavored when grown under glass as when in the open ground; therefore it is best to choose the highest flavored varieties for the purpose, provided they will succeed, as it is not every variety that grows well and is productive in the open ground that is equally so under glass. Among those that are known to be good for forcing are the Hooker, Bartlett, Vicomtesse, and Trollop's Victoria. The latter variety makes a fine show, but it wants flavor. The Bartlett has been known to fruit eight months without cessation. All that is required is to keep off all runners and give plenty of water, with an occasional dose of liquid manure. Doubtless there are many others that are equal, if not superior, to these, but I have no facts to determine their relative merits for the purpose.

#### INSECTS.

The insects to which the strawberry is most subjected, when cultivated in pots, are the red spider and green fly, or aphid. The red spider is more troublesome in a dry atmosphere, while the aphid likes cold and moisture; but if the plants are kept vigorous and healthy, few insects will attack them. Tobacco-smoke or syringings with to-



bacco liquo: will eradicate the aphis, and flour of sulphur scattered freely among the plants will kill the red spider.

In open-ground culture, slugs, snails, and wire-worms are sometimes troublesome; but they may be readily destroyed by dusting the plants and entire surface of the soil with fresh slacked lime. When the ground is kept mulched, the wire-worms find a safe retreat under it, and free use of lime is often necessary to destroy them.

Ants are sometimes troublesome when the fruit is ripening, and their nests should be found and treated with a dose of hot water or guano. The grub, or cut-worm, as it is called, is very destructive in some sections of the country. They eat off the roots close to the crown, and the plant soon turns yellow and dies. The only sure way that I have ever found of eradicating them is to dig up the plant so soon as the leaves begin to turn yellow, and kill the grub, which you will invariably find under the plant if you dig in time. It is also well to examine the soil carefully when preparing the beds, and destroy all that are found. Mice will sometimes attack the plants that are in the frames, but pussy or the trap will soon take care of these.

#### RETARDING RIPENING.

To retard the ripening of the strawberry is often as desirable as to force or produce fruit early, or out of its natural season. When grown in pots it is a very simple process, all that is required to produce a late crop being to place the plants in a cool northern exposure early in the season, or before they commence growth, and keep them there so long as the health of the plant does not suffer for want of light and air. The north side of a wall, or in frames, with the sash having an inclination to the north, will answer the purpose for retarding the fruit.

For late crops, it is always best to choose the very latest varieties—Austin, Triomphe de Gand, and Trollop's Victoria are excellent varieties for this purpose. Too sudden transition from cold to heat should be guarded against, for the embryo fruit buds are formed within the plants months previous to this development, and they require time and a steady increase of temperature, for naturally the strawberry requires about three months to develop and bring its fruit to maturity; and though we may hasten the time somewhat, we can

not push nature past certain limits without causing a part to be deficient.

To produce fruit, there must form a calyx, corolla, stamens, and pistils, and these do not always grow uniformly; that is, we may force so rapidly that the calyx and corolla will form, but there will be no stamens or pistils, and consequently no fruit.

A sudden change from heat to cold, or *vice versa*, will cause the plants to "go blind" or become barren. Knowing this, we guard against it by bringing the plants from a cool situation into one that is slightly warm, and then to one that is still warmer, and so by two or three changes get them into a situation where they may have the full amount of heat required.

When the fruit is to be ripened under glass, the plants may be brought from the retarding frames and at once placed in a position where they are to ripen their fruit; but they must be kept partially shaded at first, and the house or frames quite cool (no bottom heat being required), the temperature being increased gradually until they show fruit; then they may be hastened through the ripening process if desired.

Plants that have been forced early in the season may be turned out into the open ground, and if the runners are removed so soon as they appear, and the plants constantly supplied with water, they will usually produce a fair crop, and often a very large crop of fruit in autumn.

The plants that have fruited in pots are of little value except for the purpose of producing a late crop, after which they may be thrown aside and their place supplied with fresh plants.

The ripening of the fruit may be considerably retarded when the plants are grown in the open ground, if planted on the north side of a bank, or upon a northern hillside, always taking the precaution to select the very latest variety for this purpose.

Banks three or four feet high and six feet wide, running from east to west, the sides being terraced and held in place by boards, brick, or stone, are excellent places to not only hasten the crop, but also to retard it. The early varieties are planted on the south, and the late on the north side. Place the plants one foot apart, and only one row on each

terrace, which, if the bank is four feet high and twelve feet broad at the base, will give six steps or terraces of one foot wide and eight inches high on each side, or twelve rows in all. Plants grown upon banks require more attention than those grown upon level ground, for they must be watered regularly, and the ground kept constantly covered with some kind of mulch.

If a row of small evergreen shrubs is planted on the top of the bank, so as to partially shade the plants on the north side, it will assist in retarding ripening. Another method of producing a late crop is to cut off all the flowers when they first appear, and then by giving plenty of water make the plants give a second crop. These plans of retarding or producing a second crop are practicable only in a small way, and only valuable to the amateur.

The Monthly Alpine strawberry furnishes a regular and constant crop of fruit from June to winter, with ordinary culture, but the quantity produced is not large, nor of the best quality; yet it is well worthy of a place even in the smallest garden.

#### PROPERTIES OF THE STRAWBERRY.

The properties of a good strawberry are as follows :

1st. The flavor should be rich and aromatic, consequently it must contain a large amount of the peculiar acids belonging to it as well as a large amount of sugar; the latter should slightly predominate.

2d. The flesh should be firm, but melting and solid throughout.

3d. The form should be regular, whether round, conical, or otherwise. I prefer the conical.

4th. Color: 1st, scarlet; 2d, crimson scarlet; 3d, crimson; 4th, dark crimson; 5th, white.

5th. The calyx should part readily from the berry without breaking the flesh.

6th. The plant should be productive.

7th. The fruit-stalks should be long and stout.

8th. Leaves large, abundant, thick, and of good substance.

9th. The plants should be vigorous and hardy, being not only capable of withstanding the cold of winter, but the heat of summer, and producing a only moderate number of good strong runners.

A strawberry to become a general favorite in this country, must possess not only richness and other good qualities, but that peculiar fragrance found in perfection only in the wild strawberry of North America; and many of our new varieties have scarcely a particle of this delightful perfume, and would hardly be recognized by their fragrance alone as belonging to the strawberry family.

A strawberry of moderate size, say one to one and a half inches in diameter, is certainly as good if not better than one that is much larger; but everybody wants strawberries larger than his neighbor, if for no other purpose than to make people stare and excite the admiration of the uninitiated. So long as people will admire and pay an extra price for extra size fruit without regard to quality, just so long will the cultivator endeavor to produce the largest possible. The time was when strawberries were really too small for convenience, but that time is past, and now the other qualities should have due care and attention. In this respect they have been sadly neglected by cultivators, and many of our great strawberries are existing witnesses of the fact.

Such faults as the fruit being hollow, soft, dull color, insipid, acid, calyx adhering so firmly to the berry that the latter is torn in pieces or crushed in separating, and many other faults, are too common with the larger varieties in cultivation.

#### GROWTH OF VARIETIES.

Although all the varieties of the strawberry have a family resemblance, yet the difference in the foliage and manner of growth is very marked; some having very dark, glossy, green foliage, with reddish foot-stalks; others are pale green, and quite rough. The leaf-stalks (petiole) of some species are mostly smooth; for instance, those of the grandiflora, while others are pubescent, or almost hairy, like the Iowa, and the seedlings therefrom. The lobes of the leaves vary from linear to ovate, broad ovate, and sometimes nearly rhomboid.

The edges of the leaves are all serrated, but some deeply and coarsely, the serratures being sharp, others blunt or broad at the point, while others are very small. All these variations assist the cultivator in determining kinds. Those that have small, thin foliage



usually possess but little vigor, seldom producing much fruit or very large. On the other hand, a variety may run too much to foliage, and consequently be unproductive, but the strong growers should be relied upon, as it is only through such that we can expect any great increase in size or productiveness.

The difference in growth of the roots of strawberries is also worthy of notice. Some are long, thread-like, as those of the Crimson Cone, penetrating deeply into the soil, while others have short, fleshy roots. Rivers' Eliza is very peculiar in this respect, for in some soils it is almost tuberous.

The foliage will not indicate the form of the roots, as those of some of the tall growers are very short. These variations in the form of roots, when observed, will often assist us in determining what kind of particular soil will best suit a particular variety. The short-rooted varieties must have a more moist and deeper prepared soil to encourage their elongation, while the long wire-rooted kinds go deeply and widely in search of food, even in unfavorable soils. The latter succeed much better in dry sandy soils than the former.

There is another peculiarity in the growth of different varieties which has been too little studied, namely, those that produce stools or crowns adhering together, and those that do not.

Figure 12 is an exact representation, half size, of a plant of the Bartlett that has borne two crops and is three years old. While it shows a number of crowns, there are not more than two that are united on one stem. This variety divides of itself, and will not form a large stool and remain united. If the runners are kept removed, you can compel the plant to form large clusters of crowns, from which a larger number of fruit-stalks will grow; yet this cluster of crowns will generally issue from individual plants—the plant seeming to divide of its own accord, more than two crowns seldom remaining united, except by the interlacing of the roots.

Every season, as the fruit-stalks push up, new crowns are formed at the sides of those that have produced fruit, and soon after forming they emit new roots above the old ones, and are thus supplied with food through the new roots, the old ones merely answering as an anchor to hold the plant in its place. These crowns not only soon divide

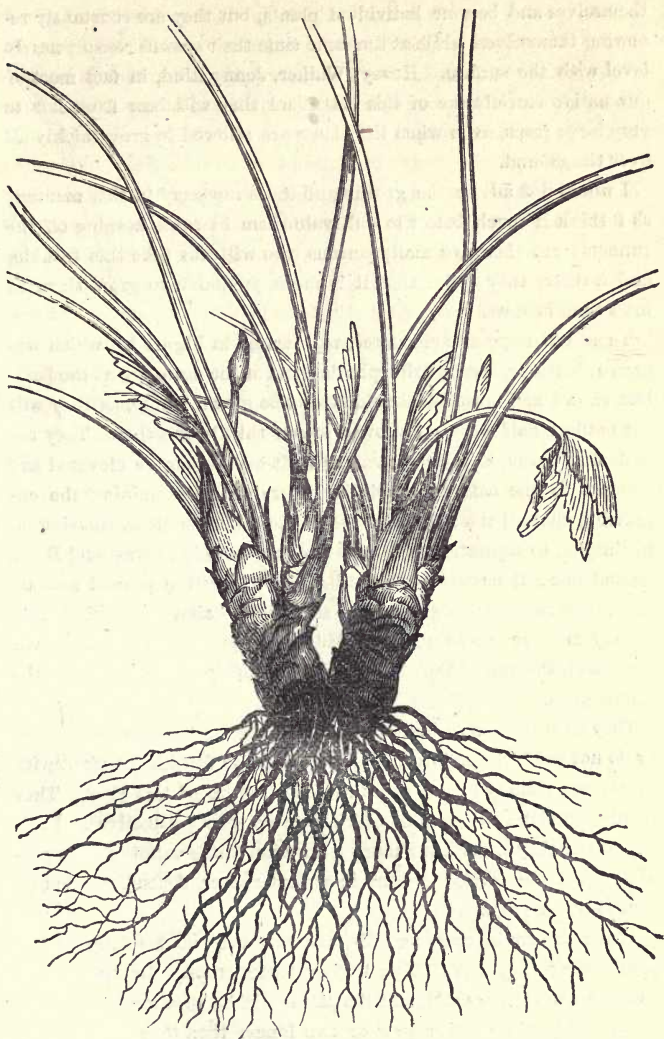


Fig. 19.

themselves and become individual plants, but they are constantly renewing themselves, while at the same time their crowns remain nearly level with the surface. Hovey, Walker, Jenny Lind, in fact most of our native scarlets are of this class, and they will bear from fair to very large crops, even when the plants are allowed to grow thickly all over the ground.

I would not advise the growing of the strawberry in this manner, as I think it much better to cultivate them in rows, keeping off the runners; yet there are many persons who will not take this trouble, and further, they claim that it is more profitable to grow them in mass than in rows.

Those of an opposite character, represented in Figure 13, which was drawn, half-size, from a Triomphe de Gand of the same age as the Bartlett, shown in Figure 12, should always be grown singly, as they will not produce half a crop if allowed to run thickly together. They are seldom as hardy, as their crowns or fruit-buds are more elevated and exposed to the cold. It will be observed, by examining the engraving, that all the crowns are united to the main stem, showing no inclination to separate. A, C, and D represent side crowns, and B the central one; E represents the old fruit-stalk of the present season; F, F, new roots starting from the side crowns above the soil. This variety is more spreading in its habit, and produces its new crowns almost on the top of the old ones, instead of upon the side, as in the former class.

They soon become so high above ground that the new roots can not or do not reach the soil in sufficient numbers to furnish the plant with nutriment. Many of our very best varieties are of this class. They require special culture, with which they are very productive and valuable, and they must have more room than those varieties that produce but single crowns or many in a cluster, each depending upon its own roots for support.

When grown in rows or hills, the soil may be hoed up to the plants after they have borne two or three crops. By this means the new roots are covered, and the plants will be very much strengthened, and produce fruit a year or two longer than they would otherwise.

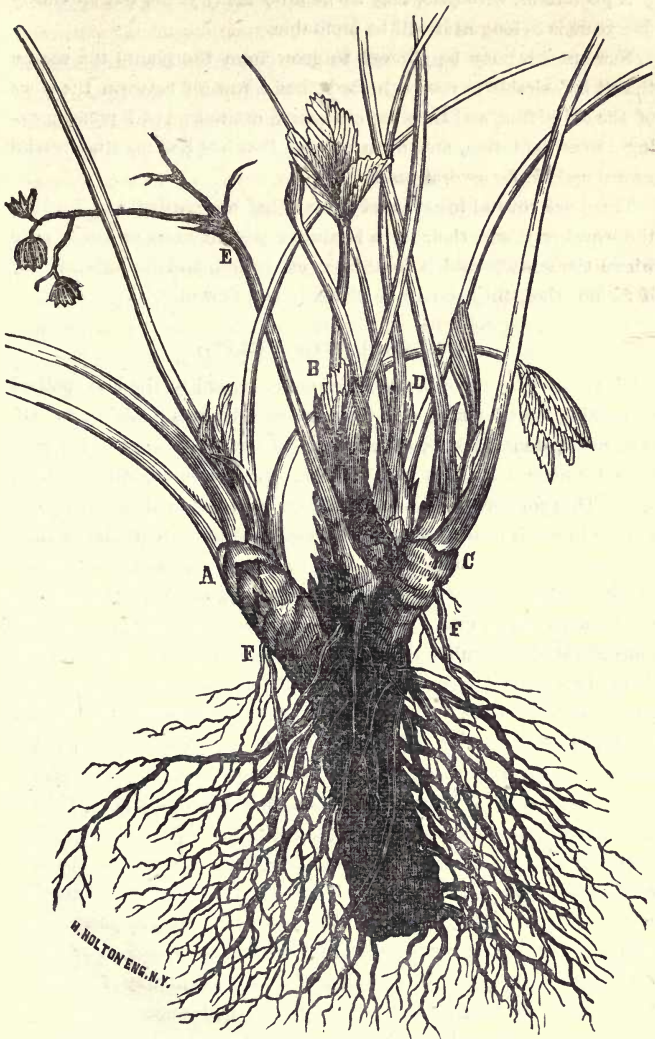


Fig. 13.



A plantation, with care, may be kept for many years, but ordinarily five years is as long as it will be profitable.

New runners may be allowed to grow from the plants the season that it is desirable to renew the beds, and a row set between the rows of the old plants, and then the old plants cut out ; but I prefer making a new plantation, and upon ground that has had no strawberries grown upon it for several years.

There are several insects and worms that are particularly fond of the strawberry, and their larva is always present more or less in soils where the strawberry has long been cultivated, and for this reason, if for no other, they should be planted upon new ground.

#### PACKING THE FRUIT.

There are as many different opinions in regard to the best method of packing fruit for market as there are contrivances for doing it. Of late, new patent baskets, all claiming to have superior merits, have been introduced in such numbers that cultivators are slow to adopt any. That we need something different from the small splint basket so long in use is evident, but what it shall be is difficult to determine.

In packing round baskets there is a loss of space, and those that are made of upright splints, with sharp edges, are liable to cut the fruit as it settles, and cause the juice to issue, besides destroying the fine appearance of the fruit. Square baskets or boxes seem to recommend themselves for various reasons, yet round ones will answer every purpose if properly made. Those who are engaged in manufacturing such articles should endeavor to produce a box or basket of this form, that can be furnished so cheap that it can always be sold with the fruit. Several such are now in use, and with a little modifying they will answer the purpose very well.

The size of the boxes should be regular—either pints or quarts—good measure when filled level with the brim ; no heaping will answer, as that interferes with packing. There should be a law passed compelling cultivators to send their fruit to market in baskets or boxes holding a certain quantity, for as it now is, there is no way of knowing what strawberries bring, as they sell by the basket, some of which hold a sixth of a quart, and from that up to a full quart. If the fruit sold

for so much a pint or quart, then the purchaser would know just what quantity he was getting for his money, and the price would be regulated by the quality as well as the quantity in market. If we could go into market and learn that the Wilson strawberry brought so much per quart, and Triomphe de Gand so much more, it would look as though the cultivator of choice fruits was to be encouraged. The public would soon learn which was the best, and the cultivator would know which was bringing the best price, and consequently which was the most profitable for him to grow.

Now strawberries are quoted at so much per basket, which means something, but just what no one is able to tell. Uniformity in size of basket will never be brought about until there are strenuous laws passed for that purpose, for the love of gain is too strong on the one hand, and carelessness too common on the other.

When strawberries are to be sent to a distance, and it is requisite that they should arrive at their destination in the best possible condition, each berry should be enveloped in fine tissue-paper, and a good layer of cotton placed between each layer of fruit. The baskets or boxes should be shallow, and not more than a half a dozen layers placed in any one of them.

Another plan, which is practiced in Europe, is to have a box made of the required size, with thin boards as false bottoms to fit in, each one resting upon slats nailed to the side of the box; these boards are bored full of small holes, the holes being far enough apart so that the fruit will not touch; the fruit is picked with the stems. These stems are drawn first through a small piece of paper and then through the holes, and fixed with a small peg or pin on the under side. When one of the boards is filled, and placed in its position in the box, another is taken, and so on until the box is full. This is one of the best methods of packing strawberries for sending to exhibitions, but of course is impracticable for market purposes.

#### PACKING PLANTS.

Nurserymen have different methods of packing strawberry plants, therefore I will only mention the manner in which I have packed plants for many years, and with excellent success.

When large quantities are to be packed, it is best to have some hands taking up the plants while others are packing. Take up the plants with a trowel or fork and throw them into a box, and so soon as a few hundred are up, carry them into the packing-house, count them and tie twenty-five in a bundle, using bass bark for strings, as this is cheap and convenient, and does not cut the plants if drawn tight.

Twenty-five is a convenient number to hold in the hand while counting, and is quickly tied; besides, the smaller the bundle the less liable are the plants to heat if they have to remain long together, and four bundles making a hundred, they are readily counted.

When the requisite number are ready, pack them in boxes that are from six to eight inches deep, placing a layer of damp moss in the bottom and against the side. When you commence putting in a layer of bundles, set them upright, and then put in another thin layer of moss, and so on until the box is full. Then nail slats of two or three inches wide across the top, leaving a space of about an inch between to give air and light to the plants, and so that the expressman or other carrier may see what he has in his care, and that it is perishable.

Common boot and shoe boxes, divided lengthwise, are convenient and light—besides, they can usually be bought very cheap.

When many thousand plants are to be sent in one order, larger boxes may be used, and several layers of plants put in; but if they are to be sent to any great distance, a single layer is all that is safe to place in one box. The purchaser had better pay for more boxes and more freight, and have his plants delivered in good order.

One great error with most packers of plants is, that they do not make any calculation as to how long the plants are likely to be on their journey, and pack all alike, whether they are to be one day or one month reaching their destination. This should not be, for the plants that are to be many days in the boxes should have more care than those that are to remain there but a short time. The moss used in packing should contain more water, that the plants may be supplied with moisture sufficient to prevent wilting, but not enough to cause them to rot. There is, however, but little danger of plants

rotting if they are packed as I have described, namely, only one layer in a box, and the foliage exposed to light and air.

#### SENDING PLANTS BY MAIL.

Thanks to the liberal postal laws of our country, we can now send strawberry plants in small quantities cheaply and safely to any part by mail. The postage being only one cent per ounce on plants, cuttings, and seeds, in packages of eight ounces or less, every one should avail themselves of this privilege, and widely distribute one of the best of all fruits, the strawberry. A package of one dozen plants, packed in the following manner, will go safely to any part of the country where it does not require more than two weeks for them to reach their destination, costing from three to six cents for postage.

Take up the plants, remove all the soil, and cut off the largest leaves; then take a piece of oiled silk or muslin, about eight inches square, place a thin layer of very fine damp moss upon it, and on the moss lay first three or four plants, then a little more moss, then a few more plants, and so on, until your dozen or two is all in; then roll up the plants in the silk, being careful that moss entirely surrounds them; fold over and tightly around the roots, but leave the top end open. Then tie the package with strong, fine twine, after which envelop the whole with good strong paper, on which write plainly the directions. The top end must be left open for the inspection of the postmaster. Postage must be paid in advance by affixing stamps.

#### PROFITS OF STRAWBERRY CULTURE.

An acre of the best varieties of strawberries properly cultivated on ordinary sandy loam will, in four years, produce something like the following results:

Three crops, of 300 bushels each, 900 bushels, at 12 cents per quart.....	\$3,456 00
Cost of plants.....	\$75 00
Manure.....	200 00
Labor in cultivating.....	200 00
Mulching.....	50 00
Picking, 2 cts. per quart.....	576 00
Rent on land, \$10 per acre.....	40 00
	————— 1,141 00
Leaving of profit.....	\$2,815 00

If a small portion of the plants be allowed to throw out runners,



the sale of them will add considerably to the income. We might, with propriety, deduct the cost of plants from the expenses, for, at the end of four years, more new plants will make, after the crop is taken off, if allowed to run, than will stock ten acres. The expenses are calculated for the neighborhood of New York.

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## COOKING AND PRESERVING STRAWBERRIES.

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### **Strawberry Short-Cake.**

INTO three pints of flour rub, dry, two teaspoons heaping full of cream tartar; add half a tea-cup of butter, a little salt, one teaspoonful of soda dissolved in a pint of milk and water. Mix quickly and thoroughly, roll to an inch in thickness, and bake twenty minutes in a quick oven.

Take a quart of strawberries, and add cream and sugar to make a sauce. For this purpose small-sized, rather acid berries with sprightly flavor are preferable.

When the short-cake is done, divide it in three layers, butter them, and spread the strawberries between. Eat while warm.

### **Strawberry Dumplings.**

Make crust same as directed for short-cake; roll half an inch thick; put about a gill of strawberries for each dumpling. Bake, steam, or boil half an hour.

### **Strawberry Pies.**

Line your pie-dish with crust made in the usual manner; fill the dish with good ripe strawberries of medium size; sprinkle on a little flour, and sugar in proportion to the acidity of the berries. Cover with a thin crust.

### **Strawberry Jam.**

For every pound of strawberries take three quarters of a pound of sugar. The berries should be mashed in a preserving kettle, and the

sugar thoroughly mixed with them. Boil from twenty minutes to half an hour, stirring constantly.

#### **Strawberry Jelly.**

Take strawberries when fully ripe, strain, and to each pint of juice add a pound of the best refined sugar. Boil briskly, skimming when necessary, for ten or fifteen minutes, or until it will jelly, which may be known by dropping a little in cold water. If done, it will fall to the bottom in a mass.

#### **Strawberry Cream.**

Mash the fruit gently; drain it on a sieve; strew a little sugar on it; when well drained (without being pressed), add sugar and cream to the juice, and, if too thick, a little milk. Whisk it in a bowl, and as the froth rises, lay it on a sieve; when no more will rise, put the cream in a dish and lay the froth upon it.

#### **To Preserve Strawberries without Sugar.**

Put the fruit in the preserving kettle, and, if very dry, add a little water to prevent burning. Boil about three minutes, or just long enough to be sure the whole mass is thoroughly heated—not cooked. Dip into cans, filling them completely; seal quickly, and set in a cool place. (Glass jars containing fruit should be kept in a dark place or covered with dark-colored paper.) Open, and add sugar several hours before using.

#### **Strawberry Wine.**

To one gallon of juice, strained, add two and a half pounds of sugar (no water); let it stand in an open vessel twenty-four hours, occasionally skimming off the scum that rises. Then fill the cask in which it is put, full, reserving enough to fill up as, in process of fermentation, it runs over. When the fermentation is completed, stop tightly. Let it stand three months, draw off, and bottle.

#### **Strawberries and Claret.**

Over three quarts of strawberries pour one bottle of good claret wine. Add sugar to suit the taste.

# CATALOGUE OF STRAWBERRIES.

THE following list comprises the names of the Strawberries in all authentic works to which I have had access. Although it may not enumerate all the varieties, it is probably more complete than any list hitherto published. Many of the sorts here named have passed out of cultivation, and others are so little disseminated that they are scarcely known out of the locality where they originated.

The synonyms are printed in *italics*.

American Scarlet,	Bath Scarlet,	Brooks' Prolific,
<i>Black American, New</i>	<i>New Bath Scarlet, Liverpool, Golden Drop,</i>	Brooklyn Scarlet.
<i>American Scarlet,</i>	<i>Devonshire, North's</i>	Bonte St. Julien.
<i>Thompson's Roseberry, New Roseberry.</i>	<i>Seedling, Milne's Seed-</i>	Beauty of England.
Autumn Scarlet.	<i>ling, Imperial Scar-</i>	Barnes' White.
Adonis.	<i>let, Austin's Carolina</i>	Barrat's Empereur.
Athlete.	<i>Pine, Chili, etc.</i>	Bayne's Early Scarlet.
Austin.	Black Prince,	Bayne's Incomparable.
Alice Maude.	<i>Wilmot's Black Impe-</i>	Belle d'Orleans.
Amazon.	<i>rial.</i>	Buist's Prize.
Ambrosia, <i>Nicholson.</i>	Black Prince, <i>Cuthill's.</i>	Belle de Vibert.
Anguste Retemeyer.	Bostock.	Belle Artesienne.
Albion White.	<i>Rostock Seedling, Ros-</i>	Bicolor, <i>De Jonghe.</i>
American Queen,	<i>tock Pine, Rostock Bell's</i>	Excellent.
<i>Voorhis.</i>	<i>Scarlet, Wellington,</i>	Bicton Pine,
Ariadne.	<i>Cone, Byram, Culedo-</i>	<i>Merveille de Flanders.</i>
Ajax, <i>Nicholson's.</i>	<i>nia, Vernon's, Monta-</i>	Burr's New Pine.
Admiral Dundas.	<i>gue's, Prolific Bath,</i>	Burr's Columbus.
Atlestel.	<i>New Bath, Whitley's</i>	Burr's Late Prolific.
Adair.	<i>Pine, Beattie's Seed-</i>	Burr's Ohio Mammoth.
Asa Gray,	<i>ling, English Globe,</i>	Burr's Profusion.
<i>Illinois.</i>	<i>Red Chili, Devonshire,</i>	Burr's Scioto.
Agriculturist.	<i>Devonshire Chili, Red</i>	Burr's Seedling.
Annas de la Hulles.	<i>Bath, New Scarlet.</i>	Britannia.
Annette.	British Queen, <i>Myatt's.</i>	Bretonneau.
Australia.	Bullock's Blood.	Carmine Scarlet,
Abington Blush.	Black Chili.	<i>Carmine Roseberry.</i>
Belle de Machetaux.	Baltimore Scarlet.	Charlotte.
Bishop's Seedling.	Berenice.	Charlotte,
Bishop's Wick.	Bishop's Orange.	<i>Princess Charlotte, Wil-</i>
Black Cone.	Boston Pine,	<i>mot's Early Scarlet.</i>
Black Hudson's Bay,	<i>Bartlett.</i>	Cinnamon Scarlet.
<i>Black Pine, Hosie's</i>	Brighton Pine.	Clustered Scarlet,
<i>Seedling.</i>	Boyden's Mammoth ( <i>see</i>	<i>Clustered Wood Pine.</i>
Black Roseberry.	<i>Victoria</i> ).	Crimson Favorite.

Coxcomb Scarlet.	Diadem.	Emily, <i>Myatt's</i> .
Copper-leaved Roseberry	Durfee's Seedling.	Faulkner's King.
Goal, Late Scarlet,	Delices d'Automne.	Fragaria Lucida,
<i>Sir George Mackenzie's</i>	Duke of Kent's Scarlet,	<i>California.</i>
<i>Late Scarlet.</i>	<i>Globe Scarlet, Prolific</i>	Fillmore.
Chinese,	<i>Scarlet, Early Prolific,</i>	Filbert Pine.
<i>Red Chili, North's Scar-</i>	<i>Nova Scotia Scarlet,</i>	Fillbasket.
<i>let, Bourbon of Amer-</i>	<i>Cluster do., Austrian</i>	Felton's Seedling.
<i>icans, Chapelizod, Car-</i>	<i>do., Oatland's do.,</i>	Fortunatus.
<i>olina, Large White,</i>	<i>Duke of York's do.,</i>	Florence.
<i>Pineapple.</i>	Downton,	Fragrant Scarlet.
Charles' Favorite.	<i>Knigh's No. 7.</i>	Formosa.
Chilian,	Dutch,	Frogmore Late Pine.
<i>Pyramidal, Newland.</i>	<i>White Pine, Blush Pine,</i>	French Cucumber.
Chorlton's Prolific.	<i>Large Blush Pine,</i>	French Musk.
Climax Scarlet.	<i>White Bath, Red and</i>	Garystone Scarlet.
Coppock's No. 1.	<i>White Bath, Large</i>	General McClellan.
Cornucopia.	<i>White, Chili, White</i>	General Washington.
Crimson Cone.	<i>Chili, Large Pale</i>	Great Eastern.
Cutter's Seedling,	<i>Chili, Flesh-colored</i>	Grand Mère de Bollwiller.
<i>Bunce.</i>	<i>Chili, Cone, Globe,</i>	Globular Hudson's Bay.
Col. Ellsworth.	<i>Conical.</i>	Grange Hudson's Bay.
Crimson Queen.	Downer's Prolific.	Grimstone Scarlet.
Captain Cook.	Duc de Brabant.	Grove End Scarlet,
Chester.	Dundee.	<i>Atkinson's Scarlet</i>
Compte de Flanders.	Delices du Palais, <i>Nicaisse.</i>	Gibbs' Black Seedling.
Comtesse de Marne.	Dr. Karl Koch.	Glazed Pine,
Compte de Paris.	Duke of Cambridge.	<i>Knott's Pine, Scarlet</i>
Cremont Perpetual.	Duke of Cornwall.	<i>Pineapple, Chinese of</i>
Crimson Globe.	Duchesse de Treviso.	<i>same, Carolina ditto</i>
Crystal Palace.	Eclipse, <i>Reeve.</i>	<i>Red Chili ditto.</i>
Cushing.	Early Globe.	Genesee.
Carolina Grandiflora, or	Early Scarlet,	Germantown,
Superb.	<i>Montevideo.</i>	<i>Hovey.</i>
Chili White.	Elton,	Glen Albin.
Chili Orange.	<i>Elton's Seedling.</i>	Goliath, <i>Kitley's.</i>
Chili Red.	Eliza,	Georgia Mammoth.
Conqueror, <i>Prince's.</i>	<i>Myatt's, Champion.</i>	General Havelock.
Cœur Saint Innocent.	Eliza, <i>Rivers'.</i>	Georgian Scarlet.
Cook's Hybrid.	Empress Eugenie.	Gelineau.
Comtesse de Beaumont.	Early May.	Garibaldi, <i>Burgess.</i>
Cobb's Prolific.	Excelsa.	General Scott, <i>Burgess.</i>
Crookshank.	Eclipse.	Globose Scarlet.
Covode's Seedling.	Excelsior, <i>Heffron.</i>	Garden of Eden.
Chancellor	Estelle.	General Jacqueminot.
De Bath.	Emma.	General Lyons.
Diack's Seedling,	English Lady's Finger.	Hendries.
<i>New Aberdeen.</i>	Excellente.	Heroine.
Dudson House Scarlet,	Eberlein's Seedling.	Hein's White.
Deptford White or Pine.	Eleanor, <i>Myatt's.</i>	Hein's Scarlet.
Duc de Malakoff.	Elizabeth.	Honey.



Hudson's Bay,	Lewisham Scarlet,	McAvoy's Superior.
<i>York River Scarlet,</i>	<i>Scarlet Cluster.</i>	McAvoy's No. 1.
<i>American do., Late</i>	<i>Lynedock Seedling.</i>	Merveille.
<i>do., Hudson's Pine of</i>	<i>Large Black Seedling.</i>	Monroe Scarlet.
<i>Scotland, Atkinson's</i>	<i>Large Blush Chili.</i>	Moyamensing.
<i>Scarlet, Velvet Scarlet,</i>	<i>Longworth's Prolific.</i>	May Queen.
<i>Hopewood Scarlet.</i>	Lawrencia.	Marguerite.
Hovey,	Le Baron.	Monitor.
<i>Germantown.</i>	Long Stem.	Malvina.
Hooker.	La Constante.	Melanle.
Honneur de la Belgique.	Lizzie Randolph.	Nairva.
Harlaem Orange.	Lucy Fitch.	Madam Louesse.
Hooper's Seedling.	Little Monitor, <i>Burgess.</i>	Marquise de Latour Ma-
Huntsman's Montevideo.	Lady of the Lake.	bourg ( <i>see Viscomptesse</i> )
Imperial Crimson.	Lennig's White.	Mrs. D. Neilson.
Imperial Scarlet.	La Chalonaise, <i>De Jonghe.</i>	Madame E. Vilmorin
Iowa,	La Delicieuse,	Marie Amelie.
<i>Brooks' Prolific.</i>	<i>Lorio.</i>	Mount Vesuvius.
Ingram's Prince of Wales.	La Grosse Sueree.	Monophylla (one-leaved)
Iphigene.	La Reine, <i>De Jonghe.</i>	Nairn's Scarlet.
Imperatrice Eugenie.	La Sultane.	Narrow-leaved Scarlet,
Incomparable.	La Perle.	<i>Knight's No. 14.</i>
Jenny's Seedling.	Leopold.	Nicholson's Superb.
Jessie Reed,	Lorio.	Nathalie.
<i>Golden Seed.</i>	Lucas.	Napoleon III.
Josephine.	Lucie.	Neckod Pine.
Jenny Lind.	La Liegeoise.	Nimrod.
Jocunda.	Large Virginian,	Ne Plus Ultra.
Jennings' Indiana.	<i>Late Virginian.</i>	Nero.
Jeannette.	Late Prolific.	Newton Seedling.
Jung Bahadoor.	Lafayette.	Naimette, <i>Lorio.</i>
Jonna or Flauter.	Lord Spencer.	Newark Prolific,
Kaminski.	Mottier's Seedling.	<i>Green Prolific</i>
King Arthur.	Monstreuse de Robin.	Oblong Scarlet,
Knight's Large Scarlet,	Magnifique.	<i>Long Fruited do., Pad-</i>
<i>American ditto, Hairy</i>	Mary.	<i>ley's do.</i>
<i>Leaved ditto, Large</i>	Melon.	Old Scarlet.
<i>Scarlet.</i>	Metheven Scarlet,	<i>Early Scarlet, Original</i>
Knight's Scarlet-fleshed,	<i>Metheven Castle, South-</i>	<i>ditto, Virginian, Old</i>
<i>Knight's No. 16.</i>	<i>ampton Scarlet.</i>	<i>Bath, Orange or Irish,</i>
Keen's Imperial,	Morrisania Scarlet,	<i>Ecarlete de Virginie.</i>
<i>Black Isleworth Necta-</i>	<i>Hudson's.</i>	Orange,
<i>rine, etc.</i>	Myatt's Pine.	<i>Hudson's Bay, Hamil-</i>
Keen's Seedling,	Mulberry,	<i>ton's, Bishop's Pine,</i>
<i>Keen's New Seedling,</i>	<i>Mahone, King, Chero-</i>	<i>Orange Pine.</i>
<i>Murphy's Child.</i>	<i>kee, Surinam of Scot-</i>	Old Black,
Knevett's New Pine.	<i>land.</i>	<i>Black Canterbury, Black</i>
Keen's Pistillate.	Magnum Bonum.	<i>Pine, Turkey Pine,</i>
Kitley's Superba.	Macey's Seedling.	<i>Black Beacon. Mul-</i>
Kentucky.	Marylandica.	<i>berry.</i>
Ladies' Pine.	McAvoy's Extra Red.	Oscar.

Old Pine or Carolina, <i>Borsdorf, Grandiflora,</i> <i>etc.</i>	Roseberry, <i>Rose, Scotch, Scarlet,</i> <i>Aberdeen, Prolific</i>	Scott's Seedling, <i>Lady Finger.</i> Scarlet Magnate.
Ohio Mammoth.	<i>Pine, Brickley.</i>	Scarlet Cone.
Omer Pacha.	Round Fruit'd Scarlet,	Scarlet Melting.
Orange Prolific.	<i>Knight's No. 18.</i>	Scarlet Prolific.
Ophelia.	Red Cone.	Superlative.
Orb.	Round White Carolina,	Sirius.
Ornament des Tables.	<i>White Pine, White Chili.</i>	Suprema.
Pine Roseberry.	<i>(See Dutch.)</i>	Supreme Staminate.
Pitmasten Black Scarlet, <i>Early Pitmasten.</i>	Randolph Pine.	Schneicke's Pistillate.
Pitmasten's Black, <i>Late Pitmasten's Black.</i>	Read's No. 1.	Stewart.
Pine Chili.	Read's Black Pine.	Sappho.
Prince Albert.	Rival Hudson.	Seraphine.
Paulinus.	Rosaline.	Scarlet Prize.
Peabody.	Reine Hortense.	Scarlet Nonpareil.
Pennsylvanica.	Richardson's Cambridge.	Scarlet Rock.
Primate.	Rhode Island.	Sir Harry.
Prince's Globose.	Ross Phoenix ( <i>see Keen's</i> ).	Smythe's Seedling.
Princess Frederick Wil- liam.	Ruby, <i>Nicholson's.</i>	Sir Adair.
Prince Imperial.	Royal Victoria.	Sterling Castle Pine.
Premices de Bagnolet.	Rival Queen.	Scarlet Climax.
Princess Royale, <i>Polvil- lan.</i>	Russell's Prolific.	Sir Charles Napier.
Princess Royal.	Robinson's Seedling.	Surprise, <i>Myatt's.</i>
Perfumed Cone.	Ridgewood.	Sir Walter Scott.
Priscilla.	Rifleman.	Schiller.
Prince's Excelsior.	Robert Trail.	Souvenir de Nantes.
Prince Arthur.	Rushtoniensis.	St. Lambert.
Patrick's Seedling.	Richardson's Early.	Sanspareil.
Prince Alfred.	Richardson's Late.	Scarlet Cluster.
Prolific, <i>Myatt's.</i>	Royal Pine.	Scotch Runner.
Prince of Wales, <i>Cuthill's.</i>	Royal Scarlet.	Taylor's New Emperor.
Prince of Orleans.	Refulgent.	Turner's Pine.
Prolific Pine, <i>Brickley Scarlet.</i>	Scone Scarlet.	True Chili.
Pineapple.	Sir Joseph Banks' Scarlet.	Trevirana.
Prince of Wales, <i>Ingram's.</i>	Slough Scarlet,	Triumph.
Prince of Wales, <i>Stewart</i> <i>and Neilson.</i>	<i>Brown's Scarlet.</i>	Triumphant Scarlet.
Profuse Scarlet.	Solid Scarlet,	Triumvirate.
Queen Victoria.	<i>Solid-fleshed.</i>	Triomphe de Gand.
Quinquefolia.	Southborough,	Taylor's Seedling.
Queen of America, <i>Voorhis.</i>	<i>Marshall's Seedling.</i>	Tingley's Scarlet.
Quatre Saisons.	Sweet Cone,	Tatnall's Seedling.
Queen's Seedling.	<i>Knight's No. 3.</i>	Union ( <i>see Victoria</i> ).
Red Finger.	Surinam,	Unique Scarlet.
	<i>Sutton's Large, Old- aker's Pine, etc.</i>	Vernon's Scarlet.
	Swainstone's Seedling,	<i>White's Scarlet.</i>
	<i>Monstrous Swainstone,</i> <i>etc.</i>	Variegated Pine, <i>Striped Leaved Scarlet</i>
	Sciota.	Valencia.
	Scarlet Chili.	Victoria, <i>Trollope's.</i>
		Victorine.

Vicomtesse Hericart de Theury,	Wonderful.	Waverly.
<i>Duchesse de Trevisé.</i>	Wilmot's Scarlet,	Warren.
Versailles ( <i>see Monophyllia</i> ).	<i>Wilmot's Late Scarlet,</i>	Welcome.
Victory,	<i>Wilmot's Seedling, Wil-</i>	Ward's Favorite.
<i>Scarlet Victory.</i>	<i>mot's Imperial.</i>	Wellington.
Wilmot's Late Scarlet.	Wizard of the North.	White Brittany Pine.
Wertbere.	Walker.	Walworth.
Wilmot's Superb.	Wilson's Albany.	Washington ( <i>see Iowa</i> ).
	Wyoming.	Willey.
	Willow.	Yellowchild.
	Wardlaw.	

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## ALPINE, HAUTOBOIS, AND WOOD STRAWBERRIES.

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Autumnal Galande.	Gilbert's Large Brown.
American Wood Strawberry.	Green Alpine ( <i>Pineapple</i> ).
Alpine Monthly ( <i>red</i> ).	Hative de Fontenay.
Alpine Monthly ( <i>white</i> ).	Heterophylla (various leaved).
Alpine Monthly, without runners ( <i>red</i> ).	Indica or Yellow Flowering.
Alpine Monthly do., do. ( <i>white</i> ).	La Belle Bordelaise ( <i>Hautbois</i> ).
Besancon.	La Meudonaise ( <i>Alpine</i> ).
Belle Bordelaise.	Large Flat Hautbois.
Black Hautbois.	Long Fruited Murcatelle.
Bijou des Fraises ( <i>Hautbois</i> ).	Monstrous Hautbois.
Brown Hautbois.	Myatt's Hautbois.
Breslinge d'Angleterre.	Plymouth or Muricata.
Common Hautbois ( <i>original Hautbois</i> ).	Prolific Hautbois.
Caucasian.	Poitou Alpine Monthly.
Double Flowering.	Reine Quatre Saisons.
De Bargemont.	Red Wood ( <i>Des Bois</i> ).
De Montreuil ( <i>white</i> ).	Rivers' Hautbois.
De Montreuil ( <i>red, or Fressant</i> ).	Stoddard's Alpine.
Globe Hautbois ( <i>Antwerp Hautbois</i> ).	Vineuse de Champagne ( <i>Frasier's de</i>
Gloede's White Alpine.	<i>Champagne</i> ).
Gloede's Red Alpine.	Versailles Quatre Saisons.
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